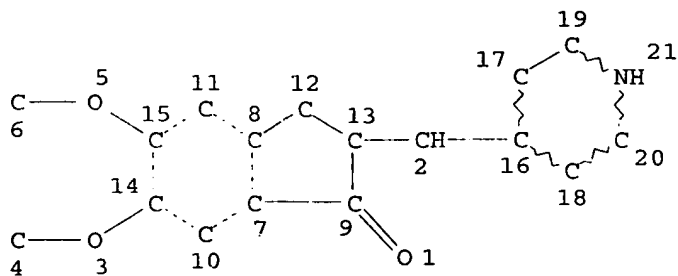


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 L4 HAS NO ANSWERS
 L4 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

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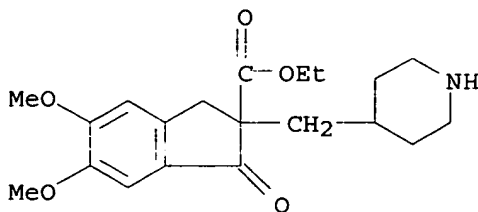
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 SEARCH TIME: 00.00.01

8 ANSWERS

L6 3 SEA SSS FUL L4

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L6 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 652130-43-3 REGISTRY
 CN 1H-Indene-2-carboxylic acid, 2,3-dihydro-5,6-dimethoxy-1-oxo-2-(4-piperidinylmethyl)-, ethyl ester (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C20 H27 N O5
 SR CA
 LC STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL
 DT.CA Caplus document type: Patent
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



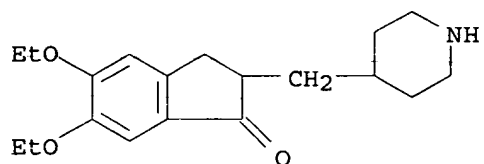
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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
RN 571144-62-2 REGISTRY
CN 1H-Inden-1-one, 5,6-diethoxy-2,3-dihydro-2-(4-piperidinylmethyl)- (9CI)
(CA INDEX NAME)

OTHER NAMES:

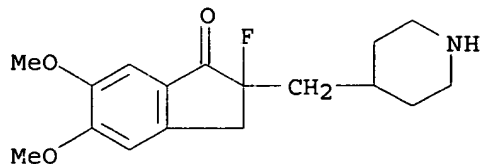
CN 4-[(5,6-Diethoxy-1-oxoindan-2-yl)methyl]piperidine
FS 3D CONCORD
MF C19 H27 N O3
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAPLUS document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
RN 382144-76-5 REGISTRY
CN 1H-Inden-1-one, 2-fluoro-2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethyl)-
(9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C17 H22 F N O3
CI COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL
DT.CA CAPLUS document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT
(Reactant or reagent); USES (Uses)

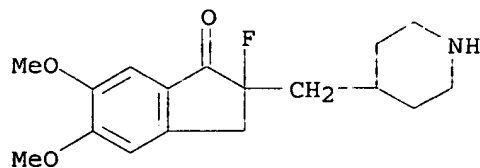


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
RN 382144-72-1 REGISTRY
CN 1H-Inden-1-one, 2-fluoro-2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethyl)-
, hydrochloride (9CI) (CA INDEX NAME)
MF C17 H22 F N O3 . Cl H

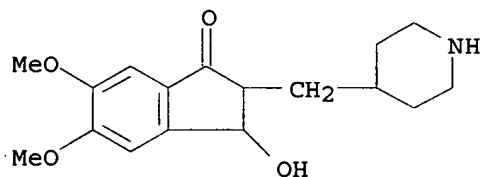
SR CA
 LC STN Files: CA, CAPLUS, CASREACT, USPATFULL
 DT.CA Caplus document type: Patent
 RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); RACT
 (Reactant or reagent); USES (Uses)
 CRN (382144-76-5)



● HCl

2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 254886-18-5 REGISTRY
 CN 1H-Inden-1-one, 2,3-dihydro-3-hydroxy-5,6-dimethoxy-2-(4-piperidinylmethyl)- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C17 H23 N O4
 SR CA
 LC STN Files: CA, CAPLUS
 DT.CA Caplus document type: Journal
 RL.NP Roles from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)

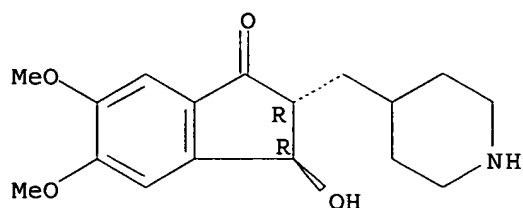


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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 220170-70-7 REGISTRY
 CN 1H-Inden-1-one, 2,3-dihydro-3-hydroxy-5,6-dimethoxy-2-(4-piperidinylmethyl)-, (2R,3R)-rel- (9CI) (CA INDEX NAME)
 FS STEREOSEARCH
 MF C17 H23 N O4
 SR CA
 LC STN Files: CA, CAPLUS
 DT.CA Caplus document type: Journal
 RL.NP Roles from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)

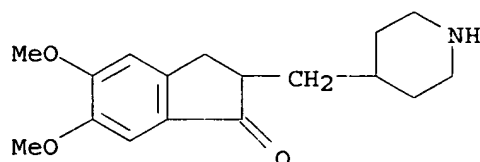
Relative stereochemistry.



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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

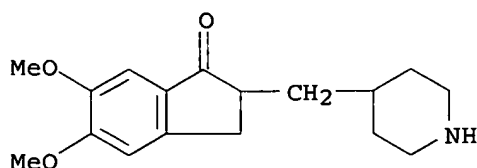
L6 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
RN 120014-30-4 REGISTRY
CN 1H-Inden-1-one, 2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethyl)- (9CI)
(CA INDEX NAME)
FS 3D CONCORD
DR 147427-76-7
MF C17 H23 N O3
CI COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
DT.CA Caplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

24 REFERENCES IN FILE CA (1907 TO DATE)
24 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2005 ACS on STN
RN 120013-39-0 REGISTRY
CN 1H-Inden-1-one, 2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethyl)-, hydrochloride (9CI) (CA INDEX NAME)
MF C17 H23 N O3 . Cl H
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA Caplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation)
CRN (120014-30-4)



● HCl

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

196.17

209.22

FILE 'CAPLUS' ENTERED AT 13:14:48 ON 24 FEB 2005

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FILE COVERS 1907 - 24 Feb 2005 VOL 142 ISS 9

FILE LAST UPDATED: 23 Feb 2005 (20050223/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L7 27 L6

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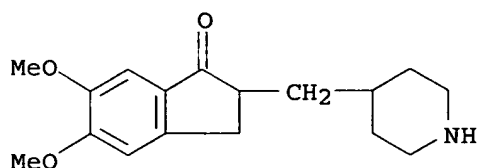
L7 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN

IT 120013-39-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as acetylcholinesterase inhibitor)

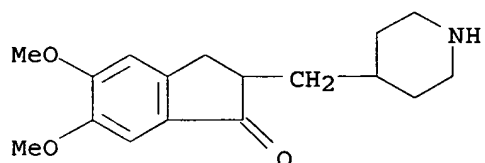
RN 120013-39-0 CAPLUS

CN 1H-Inden-1-one, 2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethyl)-,
hydrochloride (9CI) (CA INDEX NAME)



● HCl

IT 120014-30-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, in preparation of acetylcholinesterase inhibitors)
 RN 120014-30-4 CAPLUS
 CN 1H-Inden-1-one, 2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethyl)- (9CI)
 (CA INDEX NAME)



=> fil casreact
 COST IN U.S. DOLLARS
 FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
2.74	211.96

FILE 'CASREACT' ENTERED AT 13:15:33 ON 24 FEB 2005
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 COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE CONTENT:1840 - 20 Feb 2005 VOL 142 ISS 8

 *
 * CASREACT now has more than 8 million reactions *
 *

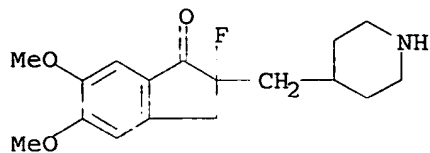
Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

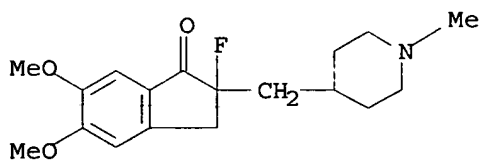
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RX(1) OF 26



HCl



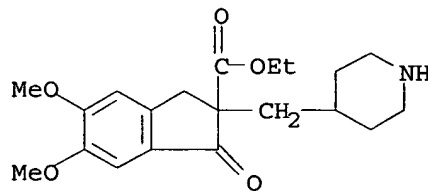
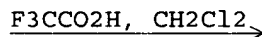
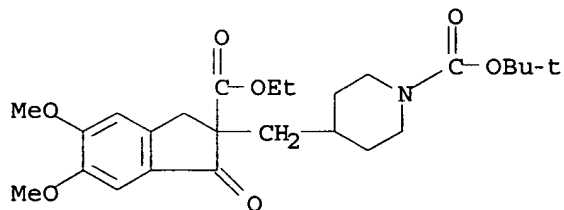
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REF: PCT Int. Appl., 2001098271, 27 Dec 2001

NOTE: 80.degree., 3 h

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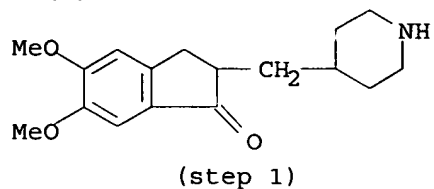


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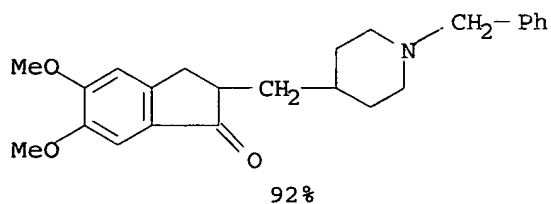
REF: Eur. Pat. Appl., 1386607, 04 Feb 2004

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RX(1) OF 6



1. PhCH₂Br, Na₂CO₃,
EtOH
2. Water

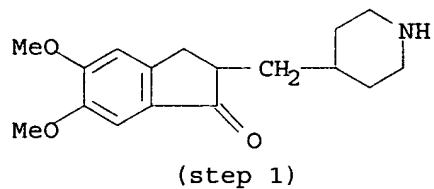


REF: U.S. Pat. Appl. Publ., 2004143121, 22 Jul 2004

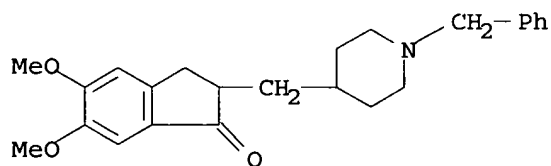
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L8 ANSWER 2 OF 5 CASREACT COPYRIGHT 2005 ACS on STN

RX(1) OF 3



1. PhCH₂Br, Et₃N,
CH₂Cl₂
2. HCl, MeOH

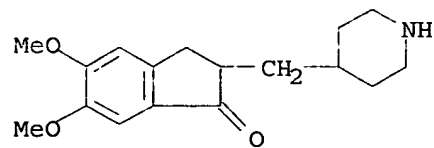
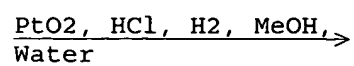
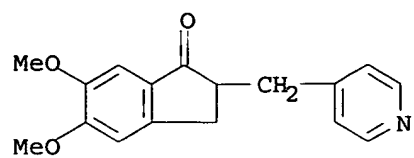


REF: U.S. Pat. Appl. Publ., 2004158070, 12 Aug 2004

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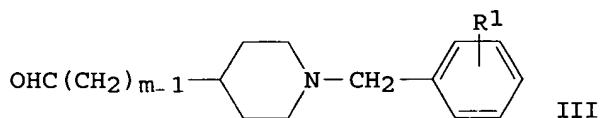
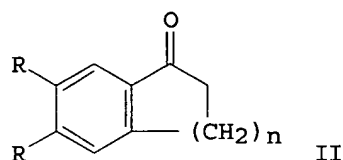
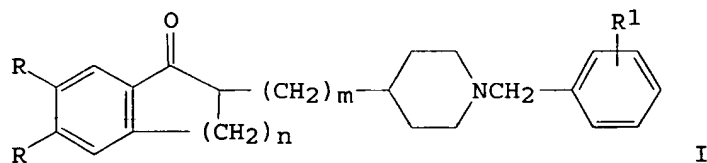
L8 ANSWER 1 OF 5 CASREACT COPYRIGHT 2005 ACS on STN

RX(2) OF 10



REF: PCT Int. Appl., 2004082685, 30 Sep 2004

AN 1993:560046 CAPLUS
 DN 119:160046
 TI Synthesis and anti-acetylcholinesterase activity of 1-benzyl-4-[(5,6-dimethoxy-1-indanon-2-yl)methyl]piperidine hydrochloride (E2020) and related compounds
 AU Sugimoto, Hachiro; Iimura, Youichi; Yamanishi, Yoshiharu; Yamatsu, Kiyomi
 CS Tsukuba Res. Lab., Eisai Co., Ltd., Tsukuba, 300-26, Japan
 SO Bioorganic & Medicinal Chemistry Letters (1992), 2(8), 871-6
 CODEN: BMCLE8; ISSN: 0960-894X
 DT Journal
 LA English
 GI



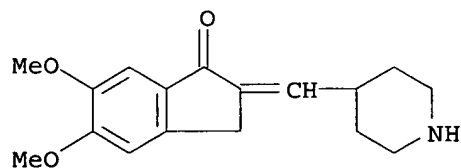
AB Title compds., e.g., I (R = H, MeO; R1 = H, 2-Me, 3-Me, 4-Me, 2-O2N, 3-O2N, 4-O2N; n = 1, 2, 3; m = 0, 1, 2) were prepared via condensation of indanone and analogs II with formylalkylpiperidines III. Evaluation of the prepared compds. for the title activity found I (R = MeO, R1 = H, n = 1, m = 1) is a selective inhibitor of acetylcholinesterase (IC50 = 5.7 nM), which exhibits a long duration of action in comparison with other cholinesterase inhibitors.

IT 149874-91-9

RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrogenation of)

RN 149874-91-9 CAPLUS

CN 1H-Inden-1-one, 2,3-dihydro-5,6-dimethoxy-2-(4-piperidinylmethylene)-
 (9CI) (CA INDEX NAME)



AN 141:314158 CASREACT
 TI Process for the preparation of donepezil and derivatives thereof
 IN Kumar, Yatendra; Prasad, Mohan; Nath, Asok; Maheshwari, Nitin
 PA Ranbaxy Laboratories Limited, India
 SO PCT Int. Appl., 25 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

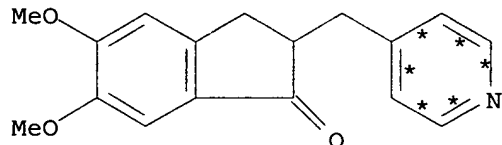
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004082685	A1	20040930	WO 2004-IB843	20040322
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI IN 2003-DE352 20030321

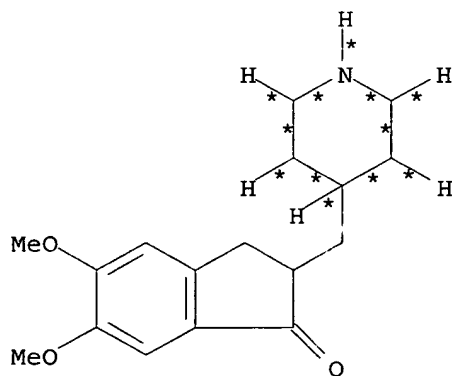
OS MARPAT 141:314158

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(2) OF 10 ...B ==> G...



B

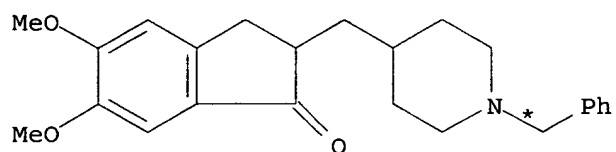
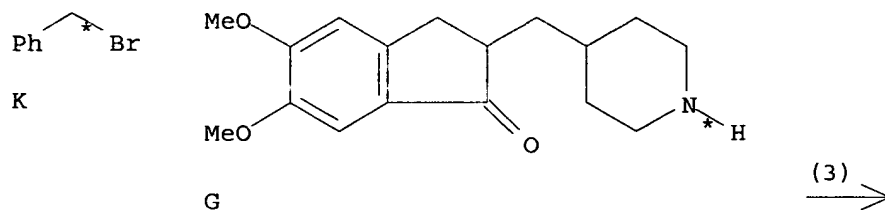


G

RX(2) RCT B 4803-57-0

RGT H 7647-01-0 HCl, C 1333-74-0 H2
 PRO G 120014-30-4
 CAT 1314-15-4 PtO2
 SOL 67-56-1 MeOH, 7732-18-5 Water

RX(3) OF 10 ...K + G ==> L



● HCl

L

RX(3) RCT K 100-39-0, G 120014-30-4

STAGE(1)

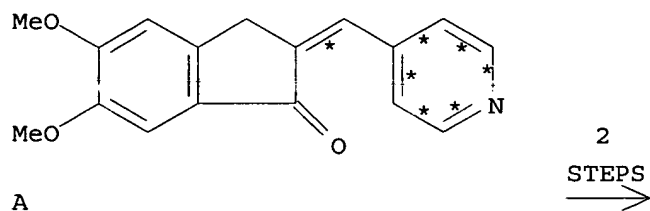
RGT M 584-08-7 K2CO3, N 1643-19-2 Bu4N.Br
 SOL 75-09-2 CH2Cl2, 7732-18-5 Water

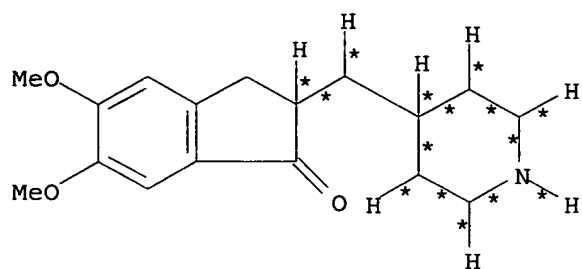
STAGE(2)

RGT H 7647-01-0 HCl
 SOL 7732-18-5 Water
 PRO L 120011-70-3

RX(5) OF 10 COMPOSED OF RX(1), RX(2)

RX(5) A ==> G



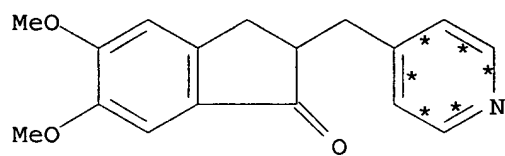


G

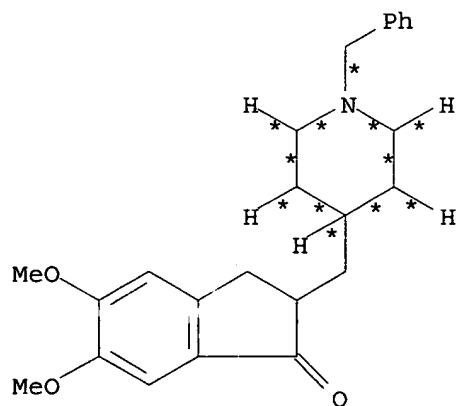
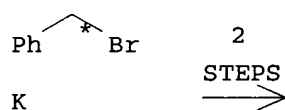
RX(1) RCT A 4803-74-1
 RGT C 1333-74-0 H2
 PRO B 4803-57-0
 CAT 7440-05-3 Pd
 SOL 67-56-1 MeOH, 75-09-2 CH2Cl2

RX(2) RCT B 4803-57-0
 RGT H 7647-01-0 HCl, C 1333-74-0 H2
 PRO G 120014-30-4
 CAT 1314-15-4 PtO2
 SOL 67-56-1 MeOH, 7732-18-5 Water

RX(6) OF 10 COMPOSED OF RX(2), RX(3)
 RX(6) B + K ==> L



B



● HCl

L

RX(2) RCT B 4803-57-0
 RGT H 7647-01-0 HCl, C 1333-74-0 H2
 PRO G 120014-30-4
 CAT 1314-15-4 PtO2
 SOL 67-56-1 MeOH, 7732-18-5 Water

RX(3) RCT K 100-39-0, G 120014-30-4

STAGE(1)

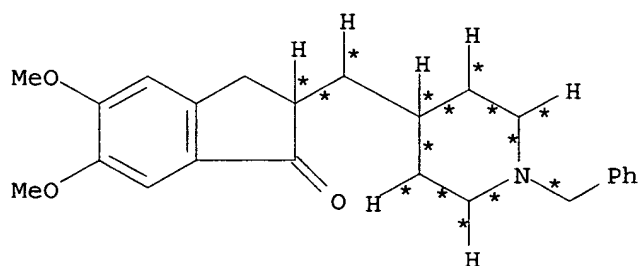
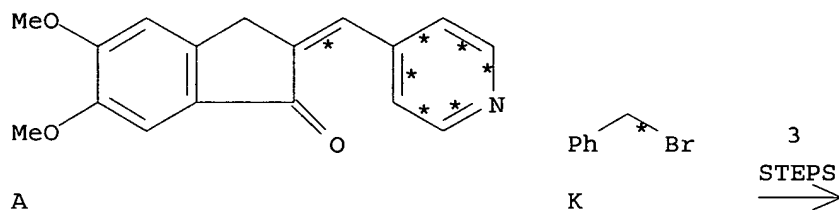
RGT M 584-08-7 K2CO3, N 1643-19-2 Bu4N.Br
 SOL 75-09-2 CH2Cl2, 7732-18-5 Water

STAGE(2)

RGT H 7647-01-0 HCl
 SOL 7732-18-5 Water
 PRO L 120011-70-3

RX(8) OF 10 COMPOSED OF RX(1), RX(2), RX(3)

RX(8) A + K ==> L



● HCl

L

RX(1) RCT A 4803-74-1
 RGT C 1333-74-0 H2
 PRO B 4803-57-0
 CAT 7440-05-3 Pd
 SOL 67-56-1 MeOH, 75-09-2 CH2Cl2


RX(2) RCT B 4803-57-0
 RGT H 7647-01-0 HCl, C 1333-74-0 H2
 PRO G 120014-30-4
 CAT 1314-15-4 PtO2
 SOL 67-56-1 MeOH, 7732-18-5 Water

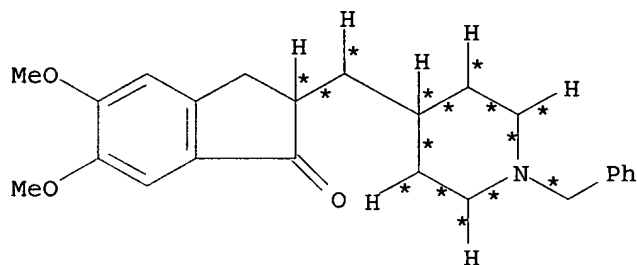
STAGE (1)

STAGE (2)

SOL 7732-18-5 Water

RX(9) OF 10 COMPOSED OF RX(4), RX(1), RX(2), RX(3)





RX (4) RCT O 2107-69-9, P 872-85-5

RGT Q 104-15-4 TsOH

PRO A 4803-74-1

SOL 108-88-3 PhMe

RX (1) RCT A 4803-74-1

RGT C 1333-74-0 H2

PRO B 4803-57-0

CAT 7440-05-3 Pd

SOL 67-56-1 MeOH, 75-09-2 CH₂Cl₂

RX (2) RCT B 4803-57-0

RGT H 7647-01-0 HCl, C 1333-74-0 H2

PRO G 120014-30-4

CAT 1314-15-4 PtO2

SOL 67-56-1 MeOH, 7732-18-5 Water

RX(3) RCT K 100-39-0, G 120014-30-4

STAGE(1)

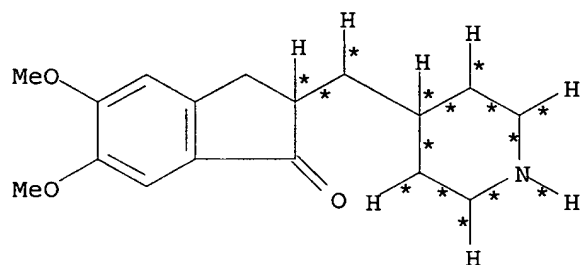
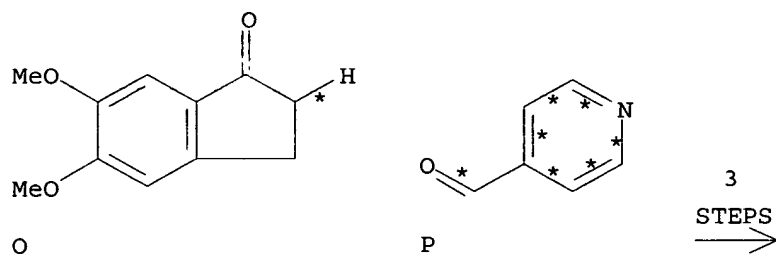
RGT M 584-08-7 K₂CO₃, N 1643-19-2 Bu₄N.Br
SOL 75-09-2 CH₂Cl₂, 7732-18-5 Water

STAGE(2)

RGT H 7647-01-0 HCl
SOL 7732-18-5 Water
PRO L 120011-70-3

RX(10) OF 10 COMPOSED OF RX(4), RX(1), RX(2)

RX(10) O + P ==> G



G

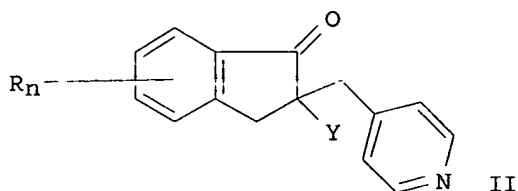
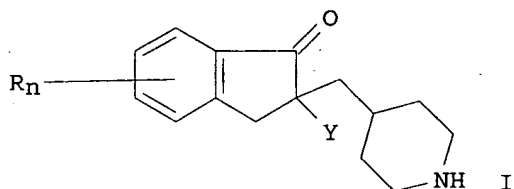
RX(4) RCT O 2107-69-9, P 872-85-5
RGT Q 104-15-4 TsOH
PRO A 4803-74-1
SOL 108-88-3 PhMe

RX(1) RCT A 4803-74-1
RGT C 1333-74-0 H₂
PRO B 4803-57-0
CAT 7440-05-3 Pd
SOL 67-56-1 MeOH, 75-09-2 CH₂Cl₂

RX(2) RCT B 4803-57-0
RGT H 7647-01-0 HCl, C 1333-74-0 H₂
PRO G 120014-30-4
CAT 1314-15-4 PtO₂
SOL 67-56-1 MeOH, 7732-18-5 Water

AN 2005:29309 CAPLUS
 DN 142:113913
 TI Catalytic hydrogenation process for the preparation of intermediates for
 acetyl cholinesterase inhibitors
 IN Reddy, Bandi Parthasaradhi; Reddy, Kura Rathnakar; Reddy, Rapolu Raji;
 Reddy, Dasari Muralidhara
 PA Hetero Drugs Limited, India
 SO PCT Int. Appl., 16 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005003092	A1	20050113	WO 2003-IN232	20030701
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,				
	PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,				
	TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				
	KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				
	FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,				
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	WO 2003-IN232		20030701		
GI					



AB A simple industrial process for the preparation of the intermediates of acetyl
 cholinesterase inhibitors [I; R = H, lower alkoxy; Y = H, F; n = 1-4;
 e.g., 4-[(5,6-dimethoxy-1-indanon)-2-yl]methylpiperidine hydrochloride] is
 described which comprises the hydrogenation of the corresponding 4-pyridyl

analog prepared by hydrogenated using a platinum oxide, Pt/C, raney nickel, or ruthenium oxide catalyst in the presence of an acid (e.g., aqueous HCl) under a pressure of 1-10 bars to give the 4-piperidinyl intermediate [II; e.g., 5,6-dimethoxy-2-(4-pyridyl)methyl-1-indanone].

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN

IT 7440-05-3, **Palladium**, uses 11113-84-1, Ruthenium oxide
 11129-89-8, Platinum oxide

RL: CAT (Catalyst use); USES (Uses)

 (catalytic hydrogenation process for the preparation of intermediates for
 acetyl cholinesterase inhibitors)

IT **120014-30-4P**

RL: SPN (Synthetic preparation); PREP (Preparation)

 (catalytic hydrogenation process for the preparation of intermediates for
 acetyl cholinesterase inhibitors)